

IN THE CLAIMS:

Please cancel Claim 7, without prejudice or disclaimer of subject matter recited therein.

Please amend Claim 1, 8, and 9, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (Currently Amended) A moving image coding apparatus that sequentially inputs and codes image data of frames constituting a moving image, the apparatus comprising:

a mode selection unit that adaptively selects, for each frame, either a first coding mode or a second coding mode, where the first coding mode is of coding a frame of interest by referring to another frame using an inter-frame coding method ~~or a~~ and the second coding mode is of coding a frame of interest without referring to another frame using an intra-frame coding method;

a storage unit that stores a frame image as a reference frame to be referred in the first coding mode;

a segmentation unit that segments image data of ~~an~~ a current input frame into a plurality of blocks;

~~a decoding unit that locally decodes coded image of the frame of interest only when the frame of interest had been encoded in the second coding mode selected by said mode selection unit and stores the decoded image data of the frame of interest into said storage unit;~~

a computation unit that (i) extracts, from ~~a previous~~ the reference frame ~~that has been locally decoded and stored in said storage unit by said decoding unit,~~ predicted data ~~of~~ for a segmented block image of the current input frame obtained ~~by segmentation~~ by said segmentation unit and outputs a block obtained by subtracting the predicted data from the segmented block image, if the mode for the current input frame selected by said mode selection

unit is the first coding mode, or (ii) outputs the segmented block image of the current input frame segmented obtained by said segmentation unit, if the mode of the current input frame selected by said mode selection unit is the second coding mode;

a transformation unit that executes discrete wavelet transformation for the block obtained by said computation unit to obtain spatial frequency component data;

a code data generating unit that encodes the spatial frequency component data for each bitplane to generate code data for each bitplane;

an adjusting unit that adjusts a code data amount by discarding code data corresponding to bitplanes from a least significant bit position to a predetermined bit position;
and

an output unit that outputs remaining code data from said adjusting unit as the code data of the segmented block; and

a decoding unit that, only when said mode selection unit selects the second coding mode for the input current frame, performs bit-shifting of the code data of the current input frame by a number of discarded bitplanes by said adjusting unit, decodes the bit-shifted code data of the current input frame, and stores the decoded image of the current input frame as the reference frame into said storage unit.

2. – 4. (Canceled)

5. (Previously Presented) The apparatus according to claim 1, further comprising an instruction unit that instructs whether to discard code data of bitplanes by said adjusting unit.

6. (Previously Presented) The apparatus according to claim 1, wherein said mode selection unit selects the second coding mode for a frame which is input for the first time after a number of input frames becomes a predetermined number.

7. (Canceled)

8. (Currently Amended) A control method for a moving image coding apparatus that includes a computer processor and a storage unit storing a frame image and sequentially inputs and codes image data of frames constituting a moving image, the method comprising:

a mode selection step of adaptively selecting, for each frame, either a first coding mode or a second coding mode, where the first coding mode is of coding a frame of interest by referring to another frame using an inter-frame coding method or a and the second coding mode is of coding a frame of interest without referring to another frame using an intra-frame coding method;

storing in the storage unit a frame image as a reference frame to be referred to in the first coding mode;

a segmentation step of segmenting image data of a current ~~an~~ input frame into a plurality of blocks;

~~a decoding step of locally decoding coded image data of the frame of interest only when the frame of interest had been encoded in the second coding mode selected by the mode selection step and storing the decoded image data of the frame of interest into the storage unit;~~

a computation step of (i) extracting, from ~~a previous~~ the reference frame that has been locally decoded and stored in the storage unit in said storing step in said decoding step,

predicted data ~~of~~ for a segmented block image of the current input frame obtained by ~~segmentation~~ in the segmentation step and outputting a block obtained by subtracting the predicted data from the segmented block image, if the mode for the current input frame selected in said mode selection step is the first coding mode, or (ii) outputting the segmented block image of the current input frame ~~segmented~~ obtained in the segmentation step, if the mode of the current input frame selected in said mode selection step is the second coding mode;

a transformation step of ~~executing~~ discrete wavelet transformation for the block obtained in the computation step to obtain spatial frequency component data;

a code data generating step of encoding the spatial frequency component data for each bitplane to generate code data for each bitplane;

an adjusting step of adjusting a code data amount by discarding code data corresponding to bitplanes from a least significant bit position to a predetermined bit; ~~and~~

an output step of outputting remaining code data from the adjusting step as the code data of the segmented block, wherein the output step is performed, at least in part, by the computer processor; and

a decoding step that, only when said mode selection step selects the second coding mode for the input current frame, performs bit-shifting of the code data of the current input frame by a number of discarded bitplanes by said adjusting step, decodes the bit-shifted code data of the current input frame, and stores the decoded image of the current input frame as the reference frame into the storage unit.

9. (Currently Amended) A non-transitory computer-readable storage medium storing a computer-executable program that, when executed by a computer, causes the computer to perform a method of controlling moving image coding apparatus that includes a storage unit

storing a frame image and sequentially inputs and codes frames constituting a moving image, the method comprising:

a mode selection step of adaptively selecting, for each frame, either a first coding mode or a second coding mode, where the first coding mode is of coding a frame ~~of interest~~ by referring to another frame using an inter-frame coding method and the ~~or a~~ second coding mode is of coding a frame ~~of interest~~ without referring to another frame using an intra-frame coding method;

a storing step of storing in the storage unit a frame image as a reference frame to be referred to in the first coding mode;

a segmentation step of segmenting image data of a current ~~an~~ input frame into a plurality of blocks;

~~a decoding step of locally decoding coded image data of the frame of interest only when the frame of interest had been encoded in the second coding mode selected by the mode selection step and storing the decoded image data of the frame of interest into the storage unit;~~

a computation step of (i) extracting, from ~~a previous~~ the reference frame that has been locally decoded and stored in the storage unit in said decoding step, predicted data ~~for~~ of a segmented block image of the current input frame obtained ~~by segmentation~~ in the segmentation step and outputting a block obtained by subtracting the predicted data from the segmented block image, if the mode for the current input frame selected in said mode selection step is the first coding mode, or (ii) outputting ~~the segmented block image of the current input frame segmented obtained~~ the segmented block image of the current input frame ~~segmented obtained~~ in the segmentation step, if the mode of the current input frame selected in said mode selection step is the second coding mode;

a transformation step of executing discrete wavelet transformation for the block obtained in the computation step to obtain spatial frequency component data;

a code data generating step of encoding the spatial frequency component data for each bitplane to generate code data for each bitplane;

an adjusting step of adjusting a code data amount by discarding code data corresponding to bitplanes from a least significant bit position to a predetermined bit position;
and

an output step of outputting remaining code data in the adjusting step as the code data of the segmented block;

a decoding step that, only when said mode selection step selects the second coding mode for the input current frame, performs bit-shifting of the code data of the current input frame by a number of discarded bitplanes by said adjusting step, decodes the bit-shifted code data of the current input frame, and stores the decoded image of the current input frame as the reference frame into the storage unit.

10. – 20. (Canceled)